Appendix B Submission form

Improving information on high-voltage network capacity

Submitter	GridQube Pty Ltd (ABN 37 634 801 808)

Questions	Comments
Q1. Do you agree with our assessment of the current state of the information and capabilities needed to inform network hosting capacity? If not, please explain why.	Yes, we broadly agree. HV/MV networks generally have better data availability than LV. However, even on HV networks, many distributors rely on periodic or simplified analyses that do not fully capture dynamic conditions. GridQube's DSSE + Capacity Constrained Optimisation (CCO) tools, deployed with Australian DNSPs, enable more accurate, automated network state estimation and capacity assessments using existing data sources. This directly supports reliable hosting capacity information without requiring full sensor rollout.
Q2. Do you agree the issues identified by the Authority are worthy of attention? If not, please explain why.	Strongly agree. These limitations directly hinder efficient DER deployment, increase connection costs/delays, and lead to suboptimal network planning. From our work in Australia, inconsistent and non-digital formats force access seekers to expend significant effort on manual screening. Standardised, map-based, and API-accessible data would materially reduce this friction.
Q3. Do you agree with our assessment that now is the time to regulate for network visibility? If not, when do you consider would be the right time?	Yes. The rapid growth in DER (solar, EVs, batteries) and electrification makes timely action essential. Delaying risks entrenching inefficiencies. A 2027 implementation aligns well with building on existing HV capabilities. Our Australian deployments show that starting with MV/HV delivers quick wins in visibility and hosting capacity assessment.
Q4. Do you agree with our assessment of the outcomes that network visibility supports? If not, why not?	Yes. Improved visibility directly enables better location selection, flexibility service identification, and non-network solutions — outcomes we have observed in practice. It also supports distributors in optimising assets and regulators in making informed decisions.
Q5. Do you consider the proposed amendments to Part 6 of the Code would promote the Authority's statutory objective? If not, why not?	Yes. Greater transparency promotes competition, efficient investment, and reliable supply at lowest cost — core to the objective. It reduces information asymmetry and supports the energy transition.
Q6. Are there any matters you believe are missing from the proposed Code amendment? Please specify.	The proposals are solid. Consider explicitly encouraging or referencing advanced analytical methods (e.g., DSSE) in the technical specifications for more accurate/dynamic hosting capacity estimates. Also, include provisions for uncertainty quantification in published data and pathways for evolving to near-real-time updates as capabilities mature.
Q7. Is the indicative timeframe for implementing the proposed Code amendment likely to be adequate? If not, please provide information supporting a different timeframe, including identifying cost savings from a later implementation date.	Yes, it appears reasonable given existing HV data availability. Some distributors may need time for system integration and map development, but collaboration and shared solutions can accelerate this. Our experience suggests 12–18 months post-Code change is feasible for initial compliance with good planning.
Q8. What are your views on the proposed approach where detailed information about the data sets captured within the definition of network	Strongly support. This provides flexibility to iterate with industry input while ensuring the Code sets the high-level obligation. It is pragmatic and allows for technical evolution (e.g., data formats, APIs, GIS integration).

capacity information would be contained in technical specifications?	
Q9. Do you consider that the proposal to develop network visibility specifications in consultation with interested parties would be effective? If not, why not?	Yes. Collaborative development will improve usability, reduce compliance burdens, and ensure specifications reflect real-world implementation lessons. GridQube would welcome participation in such consultations.
Q10. Is the proposed timeframe for developing the specifications likely to be sufficient?	It seems tight but achievable if well-structured (e.g., workshops + targeted working groups). Prioritising core datasets first (topology, capacity, reliability) would help.
Q11. Do you agree with the proposal to start with high-voltage network visibility? If not, please share your perspectives on where best to start.	Strongly agree. As noted in your paper and our own experience, HV/MV networks offer better data quality, lower complexity, and faster benefits. This phased approach mirrors successful strategies in Australia and allows learning before tackling LV challenges. GridQube's DSSE solutions are particularly effective here, delivering accurate state estimation and hosting capacity insights without full sensor coverage.
Q12. Do you agree with the assumptions the Authority has made? Why/Why not?	Yes. Assumptions around HV data quality are reasonable. Our work demonstrates that publishing enriched capacity data is feasible; we have produced such assessments and can support GIS exports, though public access-seeker-facing maps in Australia are currently often based on simpler processes.
Q13. Have we correctly identified the benefits of network visibility?	Yes — benefits are well-identified (streamlined connections, flexibility opportunities, better planning, reduced speculation)
Q14. Do you have any information that might help quantify the value of these benefits? If so, please provide this information.	Our connection assessment service has significantly reduced processing times through automation of network analysis. This reduces delays for access seekers. While we have produced capacity information, broader public availability of advanced DSSE-derived data could further minimise speculative applications and support flexibility services.
Q15. Have we correctly identified the costs of network visibility?	Yes. Costs are manageable for HV. Advanced tools like DSSE can help contain them by leveraging existing data and automating assessments.
Q16. Do you have any information that might help quantify the costs? If so, please provide this information.	We do not have NZ-specific quantified cost data. However, our practical experience in Australia indicates that costs for HV/MV network visibility can be managed effectively with advanced tools. For example, our DSSE + Capacity Constrained Optimisation (CCO) solutions have automated core network analysis for capacity assessments and connection studies. This has dramatically reduced processing times and manual effort. We can also export results in GIS-compatible formats to support map-based publishing. Such capabilities can help contain incremental costs (e.g., system integration, data processing, and ongoing updates) by leveraging existing HV data and minimising custom development. Collaboration and shared tools would further reduce burdens for distributors.
Q17. Have we correctly identified the regulatory overlaps?	Yes, the Authority has correctly identified the main overlaps (primarily SAIDI/SAIFI reliability data and zone substation capacity forecasts under the Commerce Commission's Information Disclosure Determination). The proposed requirements add valuable granularity, frequency, and visual formats. Our experience with DSSE + CCO tools in Australia shows these can be efficiently aligned with multiple regimes.

Q18. Do you agree with our assessment that there is a net benefit notwithstanding any regulatory overlap? If not, why not?	Yes, we agree there is a clear net benefit. Enhanced visibility and usability deliver significant value to access seekers and distributors that outweighs minor overlap costs. DSSE + CCO deployments with Australian DNSPs demonstrate how advanced tools can generate enriched data efficiently, supporting both the new Code and existing obligations.
Q19. Do you have any information that might help quantify the costs and benefits associated with the regulatory overlap? If so, please provide this information.	We lack NZ-specific quantified data. However, our Australian experience indicates low incremental costs: our connection assessment service has automated network analysis (via DSSE + CCO), dramatically reducing processing times, and we can export capacity results in GIS formats. This suggests advanced tools can mitigate overlap burdens effectively.
Q20. Do you agree that the Authority should consider reducing the regulatory overlap as the proposed specifications are developed?	Yes, we agree. Minimising duplication (e.g., with Commerce Commission ID requirements on geographic information, SAIDI/SAIFI, and zone substation capacity) will reduce compliance burdens on distributors while still delivering the enhanced granularity, frequency, and visual formats sought by access seekers. Collaboration during specification development is the right mechanism to align formats and avoid unnecessary rework. Tools like DSSE can help generate consistent, enriched data that satisfies both regimes efficiently.
Q21. Do you agree with our assessment that there will be net benefit from the proposed amendments? If not, why not?	Yes. The net benefit is clear, particularly when advanced visibility tools reduce manual effort and enable better utilisation of existing assets, as seen in our Australian projects.
Q22. Do you agree the proposed amendment is preferable to the other options? If you disagree, please explain your preferred option in terms consistent with the Authority's statutory objective in section 15 of the Electricity Industry Act 2010.	Yes. The phased HV-first approach is optimal. Our experience with DSSE on MV networks in Australia (including consistent planning-to-operations modelling) shows it delivers faster, higher-value outcomes than waiting for full network coverage.
Q23. Do you agree the Authority's proposed amendments comply with section 32 of the Electricity Industry Act?	Yes. The amendments are consistent with the Authority's objective (promoting competition, reliable supply, and efficient operation for long-term consumer benefit). They are necessary/desirable to address identified information gaps, with benefits clearly outweighing costs as assessed. The regulatory statement appropriately evaluates objectives, alternatives, costs/benefits, and overlaps.
Q24. Do you have any comments on the drafting of the proposed amendment?	The drafting appears clear and targeted. Minor suggestions for consideration during specification development: • Explicitly support or reference advanced analytical methods (such as Distribution System State Estimation) for producing accurate, dynamic capacity estimates and uncertainty quantification. • Ensure requirements for downloadable data emphasise machine-readable, API-friendly formats (e.g., GeoJSON, CSV with GIS linkage) to maximise usability. • Clarify expectations around integration with non-network solutions information to encourage flexibility markets. • Overall, the structure (high-level Code obligations + detailed specs) is pragmatic.
Please indicate if you wish to be consulted during the development of the technical specifications supporting the proposed Code amendment.	Yes, GridQube would like to be consulted during the development of the technical specifications. Contact person: Olav Krause Position: CEO [redacted]

	We have extensive practical experience deploying Distribution System State Estimation (DSSE) solutions with Australian DNSPs (including Power and Water, Energex and Ergon Energy) to deliver accurate, scalable network visibility and hosting capacity information on medium-voltage (HV-equivalent) networks. We believe this expertise would be valuable in shaping practical, effective specifications — particularly around data formats, accuracy/uncertainty measures, integration with existing systems, API/machine-readable outputs, and enabling dynamic or near-real-time capacity assessments. We are happy to participate in workshops or provide targeted input.